A NOTE ON THE ABUNDANCE OF A WEEVIL, *CENTRINASPIS PICUMNIS* (HERBST), IN A SMALL FIELD

Centrinaspis picumnis (Herbst) is a minute weevil (about 2 to 3 mm. long) that occurs over most of the eastern half of the United States, from spring until fall, feeding on the pollen of many plants, for example, dogwood, blackberry, and goldenrod. The fact that the adults congregate on flowers was used as an indication of the abundance of the insect. The study area for this note is a small uncultivated field about two acres (8100 m^2) in extent, located about 5 miles northwest of Huntsville, Alabama. The plant species mentioned in this note were determined by the late S. F. Blake, an authority on composite taxonomy.

Early in August, 1959, a group of 28 *Solidago gigantea* Ait. on the periphery of the study area was found to be in bloom in advance of the composites in the field. The weevils present on these flowers were collected three times a day by shaking the flowers into a large net. This was done at 7 a.m., noon, and 5 p.m. for 10 days from August 10 until August 21, 1959. The purpose was to determine during what part of the day the weevils were most active and to demonstrate the large population present.

During this phase of the study 31 collections were made on the group of 28 *Solidago* plants. The collections contained a total of 36,000 *C. picumnis*. The average number of weevils arriving on the flowers during the five hours before noon was 31 weevils per plant; the average for the five hours after noon was 58 weevils per plant. Using chi-square this difference is significant at the five per cent level indicating that the weevil probably flies more actively in the afternoon. The average for the 7 a.m. collections was 4 weevils per plant which probably includes those weevils missed when the previous 5 p.m. collection was made; apparently the weevil does not fly at night.

An attempt was made to estimate the number of *C. picumnis* occurring on the composites in the study area. The following numbers of plants were estimated to be blooming in the study area on the basis of a visual count—*Solidago gigantea* Ait., 120; *Eupatorium perfoliatum* L., 90; and *Eupatorium altissimum* L., 340. *Eupatorium serotinum* Michx. was abundant in patches; the average number of plants in 15 one-meter-square quadrates was 5.0; a conservative estimate for the field is one plant per square meter, or about 8100 plants.

On August 14 the first estimate was made. The goldenrod was open and the other composites were beginning to bloom. The following gives the number of plants examined, the plant species, and the average number of weevils per plant: 20 *Solidago,* 48.8; 5 *perfoliatum,* 25.2; 20 *altissimum,* 1.2; 20 *serotinum,* 1.5. The estimated number of *C. picumnis* present on these flowers was 20,500.

On August 19 a second estimate was made, at which time the goldenrod was in fuller bloom than before and the other flowers were open. The following results were obtained as above: 33 *Solidago,* 96.5; 10 *perfoliatum,* 35.7; 9 *altissimum,* 11.6; 40 *serotinum,* 3.8. At this time the estimated number of *C. picumnis* present was 49,500, or more than twice the figure obtained by the first estimate. Presumably this influx was due to the increased attractiveness of the flowers as they shed more pollen. The exact source for this influx of adults is not known as the larval host plant is unknown.

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